

10/528403

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property  
Organization  
International Bureau



(43) International Publication Date  
1 April 2004 (01.04.2004)

PCT

(10) International Publication Number  
WO 2004/028179 A1

(51) International Patent Classification<sup>7</sup>: H04Q 7/22, 7/32

5, FIN-36200 Kangasala (FI). WALSH, Rod [GB/FI];  
Kelkkakatu 4 B 12, FIN-33580 Tampere (FI).

(21) International Application Number:

PCT/FI2002/000753

(74) Agent: KOLSTER OY AB; Iso Roobertinkatu 23, P.O.  
Box 148, FIN-00121 Helsinki (FI).

(22) International Filing Date:

20 September 2002 (20.09.2002)

(81) Designated States (*national*): AE, AG, AL, AM, AT (util-  
ity model), AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA,  
CH, CN, CO, CR, CU, CZ (utility model), CZ, DE (util-  
ity model), DE, DK (utility model), DK, DM, DZ, EC, EE  
(utility model), EE, ES, FI (utility model), FI, GB, GD, GE,  
GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ,  
LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN,  
MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SD,  
SE, SG, SI, SK (utility model), SK, SL, TJ, TM, TN, TR,  
TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

(25) Filing Language:

English

(26) Publication Language:

English

(71) Applicant (*for all designated States except US*): NOKIA  
CORPORATION [FI/FI]; Keilalahdentie 4, FIN-02150  
Espoo (FI).

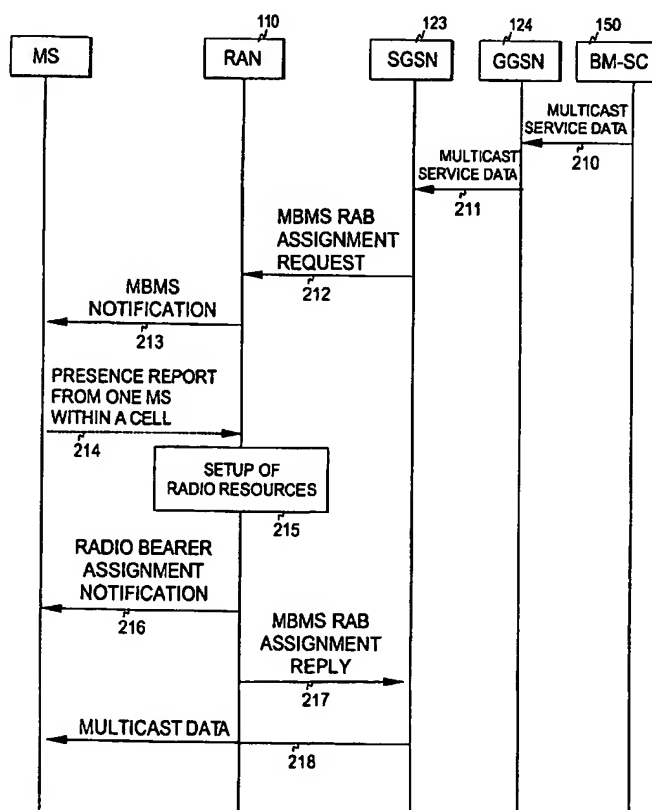
(72) Inventors; and

(75) Inventors/Applicants (*for US only*): XU, Lin [CN/FI];  
Pyrypolku 11, FIN-33880 Lempäälä (FI). LUOMA,  
Juha-Pekka [FI/FI]; Iidesranta 4 C 42, FIN-33100 Tam-  
pere (FI). SARKKINEN, Sinikka [FI/FI]; Kisällinkuja

(84) Designated States (*regional*): ARIPO patent (GH, GM,  
KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW),  
Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM),  
European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE,

[Continued on next page]

(54) Title: MULTICAST TRANSMISSION IN A CELLULAR NETWORK



(57) Abstract: The invention relates to a mechanism for performing multicast transmission in a cellular network. In order to enable establishment of resources only in cells containing members of the multicast group and to avoid congestion on the uplink channel, a multicast service notification is transmitted to mobile stations, thereby informing members of the multicast group of an upcoming multicast session. The moment for a response to said multicast service notification is selected in the mobile stations and a presence report is sent from at least one of said mobile stations at the response moment of said at least one mobile station. The presence report or reports are received within a radio access network, and radio resources are established for multicast transmission in a cell of the cellular network when the presence report(s) received in said cell meet(s) predetermined criteria.

WO 2004/028179 A1



ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, SK, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, SK, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG)

**Declarations under Rule 4.17:**

- as to applicant's entitlement to apply for and be granted a patent (Rule 4.17(ii)) for the following designations AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, UZ, VC, VN, YU, ZA, ZM, ZW, ARIPO patent (GH, GM, KE, LS,

- of inventorship (Rule 4.17(iv)) for US only

**Published:**

- with international search report

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.